



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,090	01/30/2004	Allen Miu	200315306-1	9025

22879 7590 02/06/2007
HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

KHAN, IBRAHIM A

ART UNIT	PAPER NUMBER
----------	--------------

2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/769,090

Applicant(s)

MIU ET AL.

Examiner

Ibrahim A. Khan

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement submitted on February 28, 2004 has been considered by the Examiner and made of record in the application file.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 26-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Consider **claim 25** the “computer useable medium,” in accordance with Applicant’s specification, may be an electromagnetic signal since there is no disclosure that discusses which types of mediums could be used as the computer useable medium. This subject matter is not limited to that which falls within a statutory category of invention because it is not limited to a process, machine, manufacture, or a composition of matter. Instead, it includes a form of energy.

Art Unit: 2617

Energy does not fall within a statutory category since it is clearly not a series of steps or acts to constitute a process, not a mechanical device or combination of mechanical devices to constitute a machine, not a tangible physical article or object which is some form of matter to be a product and constitute a manufacture, and not a composition of two or more substances to constitute a composition of matter.

Claims 26-32 is also rejected under U.S.C. 101 because its failure to resolve the deficiency of **claim 25**.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 3, 6, 7, 9-12, 15-18, 20, 25, 26, 29, 30, 32-34, 37 and 38 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Rimhagen et al. (US 6594245).

Consider **claim 1**, Rimhagen discloses a method for delivering data, in a wireless system comprising a distributed infrastructure of access points (*see abstract, figure 1, column 1 lines 9-13*) said method comprising:

identifying a plurality of access points to be used cooperatively in combination with each other for the transmission of said data to a receiver, wherein said cooperative usage of said plurality of access points is maintained for at least some portion of a data transmission period (*column 2 lines 6-12, column 4 lines 3-4, 16-35, 43-46 and 53-52*, where Rimhagen discloses that the network provides data to the mobile stations via multiple base station when the mobile station cannot be served by a single base station due to congestion) ; and

enabling the transmission of said data to said receiver via said plurality of access points, wherein said data is transmitted in a pattern that uses at least two access points during at least some portion of said data transmission period (*see figure 1 and figure 4, column 4 lines 53-62, column 5 lines 20-28 and lines 54-56, column 6 lines 27-44* where Rimhagen discusses transmitting data to a mobile station via a plurality of base stations when a single base station is not capable of sending all of the information on its own).

Consider **claim 10**, Rimhagen discloses a method for delivering data utilizing a multi-access point transmission scheme (*see abstract, figure 1, column 1 lines 9-13*), said method comprising:

identifying a plurality of access points to be used cooperatively in combination with each other for the transmission of said data to a receiver wherein said cooperative usage of said plurality of access points is maintained for at least some portion of a data transmission period (*column 2 lines 6-12, column 4 lines 3-4, 16-35, 43-46 and 53-52*, where Rimhagen discloses that the network provides data to the mobile stations via multiple base station when a mobile station cannot be served by a single base station due to congestion).;

delivering a first portion of said data to said receiver via a first access point; and delivering a second portion of said data to said receiver via a second access point, wherein said first portion of said data and said second portion of said data are delivered to said receiver utilizing at least one predetermined multi-access point transmission scheme (*see figure 1 and figure 4, column 4 lines 53-62, column 5 lines 20-28 and lines 54-56, column 6 lines 27-44* where Rimhagen discusses a predetermined split transmission of data to a mobile station via two or more base stations when a single base station is not capable of sending all of the information on its own).

Consider **claim 16**, Rimhagen discloses a system for data delivery in a wireless system comprising a distributed infrastructure of access points (*see abstract, figure 1, column 1 lines 9-13*), said system comprising:

an access point identifier that identifies a plurality of access points to be used cooperatively in combination with each other for the transmission of said data from a sender to a receiver wherein said cooperative usage of said plurality of access points is maintained for at least some portion of a data transmission period (*column 2 lines 6-12, column 4 lines 3-4, 16-35, 43-46 and 53-52*, where Rimhagen discloses that the network provides data to the mobile stations via multiple base station when the mobile station cannot be served by a single base station due to congestion. Note that the network identifies the access points); and

a multi-access point data transmission enabler communicatively coupled to said access point identifier, said multi-access point data transmission enabler enabling the transmission of said data to said receiver via said plurality of access points by utilizing at least one multi-access

Art Unit: 2617

point transmission scheme that uses at least two access points during at least some portion of said data transmission period (*see figure 1 and figure 4, column 4 lines 53-62, column 5 lines 20-28 and lines 54-56, column 6 lines 27-44* where Rimhagen discusses a predetermined split transmission of data to a mobile station via two or more base stations when a single base station is not capable of sending all of the information on its own. Note the network enables the multiple access points to transmit the data).

Consider **claim 25**, Rimhagen discloses a computer useable medium having computer useable code (*see abstract, figure 1, column 1 lines 9-13*), embodied therein for causing a computer to perform operations comprising:

identifying a plurality of access points to be used cooperatively in combination with each other for the transmission of said data to a receiver, wherein said cooperative usage of said plurality of access points is maintained for at least some portion of a data transmission period (*column 2 lines 6-12, column 4 lines 3-4, 16-35, 43-46 and 53-52*, where Rimhagen discloses that the network provides data to the mobile stations via multiple base station when the mobile station cannot be served by a single base station due to congestion. Note that the network identifies the access points; and

enabling the transmission of said data to said receiver via said plurality of access points utilizing at least one predetermined multi-access point transmission scheme that uses at least two access points during at least some portion of said data transmission period (*see figure 1 and figure 4, column 4 lines 53-62, column 5 lines 20-28 and lines 54-56, column 6 lines 27-44* where Rimhagen discusses a predetermined split transmission of data to a mobile station via two

or more base stations when a single base station is not capable of sending all of the information on its own. Note the network enables the multiple access points to transmit the data).

Consider **claim 33**, Rimhagen discloses a method for delivering data, in a wireless system comprising a distributed infrastructure of access points (*see abstract, figure 1, column 1 lines 9-13*), said method comprising:

identifying a plurality of access points to be used cooperatively in combination with each other for the transmission of said data to a receiver (*column 2 lines 6-12, column 4 lines 3-4, 16-35, 43-46 and 53-52*, where Rimhagen discloses that the network provides data to the mobile stations via multiple base station when the mobile station cannot be served by a single base station due to congestion. Note that the network identifies the access points; and

enabling the transmission of said data to said receiver via said plurality of access points utilizing at least one multi-access point transmission scheme (*see figure 1 and figure 4, column 4 lines 53-62, column 5 lines 20-28 and lines 54-56, column 6 lines 27-44* where Rimhagen discusses a predetermined split transmission of data to a mobile station via two or more base stations when a single base station is not capable of sending all of the information on its own. Note the network enables the multiple access points to transmit the data).

Consider claim 2 and as applied to claim 1 above Rimhagen discloses that the pattern is selected from a group of predetermined transmission patterns (*see figures 2 and 4 abstract, column 2 lines 6-15, column 4 lines 53-62, column 5 lines 20-28 and lines 54-56, column 6 lines 27-44* where Rimhagen discloses serving MS with one or more base stations)

Consider claims 3, 26 and 34 and as applied to claim 1, 25 and 33 respectively, Rimhagen discloses that the pattern is a split-balanced transmission pattern (*see figures, 2 and 4 abstract, column 2 lines 6-15, column 4 lines 53-62, column 5 lines, 20-28 and lines 54-56, column 6 lines 27-44 where Rimhagen discloses serving MS with one or more base stations*)

Consider claims 6, 15, 29 and 37 and as applied to claim 1, 10, 25 and 33 respectively, Rimhagen discloses that the respective access points of said plurality of access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner (*see figures, 2 and 4 abstract, column 2 lines 6-15, column 4 lines 53-62, column 5 lines, 20-28 and lines 54-56, column 6 lines 27-44*)

Consider claims 7, 12, 30, and 38 and as applied to claim 1, 11, 25 and 33 respectively Rimhagen discloses that the respective access points of said plurality of access points operate cooperatively and in combination by facilitating the transmission of a majority of said data over a first access point and the transmission of a remainder of said data over a second access point (*see figures, 2 and 4 abstract, column 2 lines 6-15, column 4 lines 53-62, column 5 lines, 20-28 and lines 54-56, column 6 lines 27-44*).

Consider claims 9, 32 and 40 and as applied to claim 1, 25 and 33 respectively Rimhagen discloses that the pattern is selected based upon information from the group consisting of various predetermined patterns, measurements from a variety of sources, and the content of said data to

Art Unit: 2617

be transmitted (*see column 3 lines 52-62* where Rimhagen discloses transmitting speech, pictures, general data and video. It inherent that different types of data like audio and pictures have different latency requirement and therefore different transmission pattern requirements)

Consider claim 11 as applied to claim 10, multi-access point transmission scheme comprises a split-balanced transmission scheme wherein data portions are evenly balanced across said plurality of access points(*see figures ,2 and 4 abstract, column 2 lines 6-15, column 4 lines 53-62, column 5 lines,20-28 and lines 54-56, column 6 lines 27-44*).

Consider claim 17 and as applied to claim 16 above, Rimhagen discloses a measurement subsystem inherently coupled to said multi-access point data transmission enabler, said measurement sub-system providing measurements that are used by said multi-access point data transmission enabler to determine data packet allocations across said plurality of access points period (*column 2 lines 6-12, column 6 lines 27-44 column 7 line 37- column 8 line 8* where Rimhagen discloses that the network selects one or more base station based to transmit data to a mobile station based on the resources available at the one or more base stations)

Consider claim 18 and as applied to claim 17 above, Rimhagen discloses a data packet relaying component inherently coupled to said multi-access point data transmission enabler, said data packet relaying component for relaying data packets to said receiver that are transmitted to said data packet relaying component from said sender (*figure 1 and figure 4, column 2 lines 6-12, column 4 lines 53-62, column 5 lines, 20-28 and lines 54-56, column 6 lines 27-44 column 7 line*

Art Unit: 2617

37- column 8 line 8 where Rimhagen discloses that the network selects one or more base station based to transmit data to a mobile station based on the resources available at the one or more base stations).

Consider claim 20 and as applied to claim 18 above, Rimhagen discloses wherein said access point identifier, said multi-access point data transmission enabler, said measurement subsystem, and said data packet relaying component are not all resident at the same system nodes (figure 1 and figure 4, column 2 lines 6-12, column 4 lines 53-62, column 5 lines, 20-28 and lines 54-56, column 6 lines 27-44 column 7 line).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

Art Unit: 2617

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4, 5, 8 13, 14, 19, 21, 21, 22, 23, 24, 27, 28, 31, 35, 36, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rimhagen et al.** (US 6594245) in view of **Nakamichi et al** (US 20020085498)

Consider claim 4, 27 and 35 and as applied to claim 1, 25, and 33 respectively, Rimhagen discloses the claimed invention but does not specifically disclose that the pattern is a site selection transmission pattern. Nakamichi discloses a site selection transmission pattern (*see page 1 paragraphs 0010, 0011, 0015, page 2 paragraphs 0016, 0017, page 3 paragraph 0041, 0050 and page 8 paragraph 0147* where Nakamichi discloses that the access points in the network adjust the way data is transmitted based on feedback obtained from monitoring the traffic congestion the access points)

It would have been obvious to one skill in the art at the time the invention was made to modify the teachings of Rimhagen by adding a site selection transmission scheme as taught by Nakamichi to enable dynamic load balancing in the network (*paragraphs 0010 and 0011*).

Consider claim 5, 14, 28 and 36 and as applied to claim 1, 12, 25 and 33 respectively, Rimhagen discloses the claimed invention but does not specifically disclose that the pattern is a combination of a split-balanced transmission pattern and a site selection transmission pattern. Nakamichi discloses a combination of the split and site transmission pattern (*see page 1 paragraphs 0010, 0011, 0015, page 2 paragraphs 0016, 0017, page 3 paragraph 0041, 0050 and page 8 paragraph 0147* where Nakamichi discloses that the access points in the network adjust the way data is transmitted based on feedback obtained from monitoring the traffic congestion the access points)

It would have been obvious to one skill in the art at the time the invention was made to modify the teachings of Rimhagen by adding a combination of site and split transmission scheme as taught by Nakamichi to enable dynamic and efficient load balancing in the network (*paragraphs 0010 and 0011*).

Consider claim 8, 13, 31 and 39 and as applied to claim 7, 12, 30 and 38 respectively Rimhagen discloses the claimed invention but does not specifically disclose that the remainder of said data is used to gather information related to said second access point. Nakamichi discloses that the remainder of said data is used to gather information related to said second access point

Art Unit: 2617

(see Nakamichi page 1 paragraphs 0010, 0011, 0015, page 2 paragraphs 0016, 0017, page 3 paragraph 0041, 0050 and page 8 paragraph 0147).

It would have been obvious to one skill in the art at the time the invention was made to modify the teachings of Rimhagen by enabling feedback as taught by Nakamichi to enable dynamic and efficient load balancing in the network *(paragraphs 0010 and 0011).*

Consider claim 19 and as applied to claim 18 above, Rimhagen discloses the claimed invention but does not specifically disclose wherein said access point identifier, said multi-access point data transmission enabler, said measurement sub-system, and said data packet relaying component are all resident at the same system node. Nakamichi discloses that all said components reside at the same system node *(see figure 2, page 2 paragraph 0035, page 3 paragraph 0053, 0055 and 0057)*

It would have been obvious to one skill in the art at the time the invention was made to modify the teachings of Rimhagen with the teachings of Nakamichi to decrease delays *(paragraph 0010).*

Consider claim 21 and as applied to claim 18 above, Rimhagen disclose wherein said multi-access point data transmission enabler is located at receiver *(figure 5, column lines 20-28)* but does not disclose that the access point identifier is resident at said receiver. Nakamichi discloses that the access point identifier is resident at said receiver *(see figure 2, page 2 paragraph 0035, page 3 paragraph 0053)*

It would have been obvious to one skill in the art at the time the invention was made to modify the teachings of Rimhagen with the teachings of Nakamichi to decrease delays (*paragraph 0010*).

Consider claim 22 and as applied to claim 18 above, Rimhagen disclose wherein said multi-access point data transmission enabler is located at sender (*column 2 lines 6-12, column 6 lines 27-44 column 7 line 37- column 8 line 8*) but does not disclose that the access point identifier is resident at said sender. Nakamichi discloses that the access point identifier is resident at said sender (*see figure 2, page 2 paragraph 0035, page 3 paragraph 0053*)

It would have been obvious to one skill in the art at the time the invention was made to modify the teachings of Rimhagen with the teachings of Nakamichi to make the system more efficient (*paragraph 0010*).

Consider claim 23 and as applied to claim 18 above, Rimhagen discloses the claimed invention but does not specifically disclose wherein said access point identifier and said multi-access point data transmission enabler are resident at least one intermediate system node. Nakamichi discloses that the access point identifier and said multi-access point data transmission enabler are resident at least one intermediate system node (*see figure 2, page 2 paragraph 0035, page 3 paragraph 0053*).

It would have been obvious to one skill in the art at the time the invention was made to modify the teachings of Rimhagen with the teachings of Nakamichi to make the system more efficient and dynamic(*paragraph 0010*).

Art Unit: 2617

Consider claim 24 and as applied to claim 18 above, Rimhagen discloses the claimed invention but does not specifically mention wherein said access point identifier and said multi-access point data transmission enabler are located at least one of said plurality of access points. Nakamichi discloses that the access point identifier and said multi-access point data transmission enabler are located at least one of said plurality of access points (*see figure 2, page 2 paragraph 0035, page 3 paragraph 0053*).

It would have been obvious to one skill in the art at the time the invention was made to modify the teachings of Rimhagen with the teachings of Nakamichi to make the system more efficient and dynamic(*paragraph 0010*).

Conclusion

5. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ibrahim A. Khan whose telephone number is (571) 270-1110. The Examiner can normally be reached on Monday-Friday from 8:00am to 5:00pm.

Art Unit: 2617

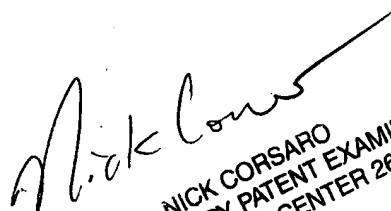
If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Ibrahim A. Khan
I.A.K./iak

1/19/2007


NICK CORSARO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600